PATENT
Attorney Docket No.: 28110/37260A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: Tang et al. Serial No.: To Be Assigned Filed: Herewith For: METHODS AND MATERIALS RELATING TO NOVEL STEM CELL GROWTH FACTOR-LIKE POLYPEPTIDES AND POLYNUCLEOTIDES Group Art Unit: To Be Determined Examiner: To Be Determined	Express Mail Label No. EK657818495US Dated: June 28, 2001 I hereby certify that this paper (or fee) is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 CFR §1.10 on the date indicated above and is addressed to the Commissioner for Patents, Box Patent Application, Washington, D.C., 20231. Richard Zimmermann

STATEMENT UNDER 37 C.F.R. §§1.821(f)

Box Patent Application
Commissioner for Patents
Washington, DC 20231

Sir:

I hereby state that the content of the paper and computer readable copies of the Sequence Listing, submitted herewith in accordance with 37 C.F.R. §§1.821 (c) and (e), are the same.

Respectfully submitted,

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June 28, 2001

SEQUENCE LISTING

<110> Tang et al.

<120> METHODS AND MATERIALS RELATING TO NOVEL STEM CELL GROWTH FACTOR-LIKE POLYPEPTIDES AND POLYNUCLEOTIDES

<130> 28110/37260

<140>
<141> 2001-06-28

<150> To be assigned
<151> 2001-04-05

<150> 60/266,614
<151> 2001-02-05

<150> 60/215,733
<151> 2000-06-28

<150> 09/757,562
<151> 2001-01-09

<150> 09/543,774
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<160> 48

<170> PatentIn version 3.0

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gagaaaacaa acagcagcag aagaagcgaa aagtccaaga taaacagaaa tcggtatcag 180

tcagcactgt acactagagg gttccatgag attattgtag actcatgatg ctgctatctc 240

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ccttgacaat tgcccagaag ggttggaagc caacaaccat actatggagt gtgtcagtat 180

tgtgcactgt gaggtcagtg aatggaatcc ttggagtcca tgcacgaaga agggaaaaac 240

atgtggcttc aaaagaggga ctgaaacacg ggtccgagaa ataatacagc atccttcagc 300

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gtgtcagaag ggagaacgag gaaaataagg ag 392

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aagaagcaat acctgacagc ggaagtctgg aatggagcaa agaaatccca gagcaacgag 180

aaaacaaaca gcagcagaag aagcgaaaag tccaagataa acagaaatcg gtatcagtca 240

gcactgtaca ctagagggtt ccatgagatt attgtagact catgatgctg ctatctcaac 300

cagatgccca ggacaggtgc tctagccatt aggaccacaa atggacatgt cagttattgc 360

tctgtctaaa caacattccc agtagttgct atattcttca tacaagcata gttaacaaca 420

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cctgacagca aaagtctgga atccagcaga gaaatcccag agcaacgaga aaacaaacag 180

cagcagaaga agcgaaaagt ccaagataaa cagaaatcgg tatcagtcag cactgtacac 240

tagagggttc catgagatta ttgtagactc atgatgctgc tatctcaacc agatgcccag 300

gacaggtgct ctagccatta ggaccacaaa tggacatgtc agttattgct ctgtctaaac 360

aacattccca gtagttgcta tattcttcat acaagcatag ttaacaacaa agagccaaaa 420

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ctggaatcca tcaaagaaat cccatatcaa cgagaaaaca gacagcagca caaaaagcga 180

aaagtccaag ataaacagaa atcggtatca gtcagcactg tacactagag ggttccatga 240

gattattgta gactcatgat gctgctatct caaccagatg cccaggacag gtgctctatc 300

cattacgacc acaaatggac atgtcagtta ttgctctgtc taaacaacat tcccagtagt 360

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actttcagat ggttgtcttg tgtgcttctc tgcattttta aa 462

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<211> 384
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gttggaagcc aacaaccata ctatggagtg tgtcagtatt gtgcactgtg aggtcagtga 180

atggaatcct tggagtccat gcacgaagaa gggaaaaaca tgtggcttca aaagagggac 240

tgaaacacgg gtccgagaaa taatacagca tccttcagca aagggtaacc tatgtccccc 300

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aaaaaaagga agggagagga aaag 384

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ttctgacact tcttcctttg cactgtacac tttcttgtct catttgttgg gggacatagg 180

ttacccttg ctgaaggatg ctgtattatt tctcggaccc gtgtttcagt ccctcttttg 240

aagccacatg tttttccctt cttcgtgcat ggactccaag gattccattc actgacctca 300

cagtgcacaa tactgacaca ctccatagta tggttgttgg cttccaaccc ttctgggcaa 360

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cgccccactt cgcttgccat cacagcacgc ctatcggatg tgagaggaga agtcccgctg 180

ctcgggcact gtctatatac gcctaacacc tacatatatt ttaaaaacat taaatataat 240

taacaatcaa aagaaagagg agaaaggaag ggaagcatta ctgggttact atgcacttgc 300

gactgatttc ttggcttttt atcattttga actttatgga atacatcggc agccaaaacg 360

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gctgtgcaac atgctcagat tacaatggat gtttgtcatg taagcccaga ctatttttg 480

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tattatggaa ctcgatatcc agatataaat aatgtgtaca aaatgcaaag ctgactgtga 600

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aaaaacatgt ggcttcaaaa gagggactga aacacgggtc cgagaaataa tacagcatcc 840

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taataaagga gaaagtaaag aagcaatacc tgacagcaaa agtctggaat ccagcaaaga 1020

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gacatgtcag ttattgctct gtctaaacaa cattcccagt agttgctata ttcttcatac 1260

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cgccccactt cgcttgccat cacagcacgc ctatcggatg tgagaggaga agtcccgctg 180

ctcgggcact gtctatatac gcctaacacc tacatatatt ttaaaaacat taaatataat 240

taacaatcaa aagaaagagg agaaaggaag ggaagcatta ctgggttact atg cac 296
Met His
1

ttg cga ctg att tct tgg ctt ttt atc att ttg aac ttt atg gaa tac 344
Leu Arg Leu Ile Ser Trp Leu Phe Ile Ile Leu Asn Phe Met Glu Tyr
5 10 15

atc ggc agc caa aac gcc tcc cgg gga agg cgc cag cga aga atg cat 392
Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg Arg Met His
20 25 30

cct aac gtt agt caa ggc tgc caa gga ggc tgt gca aca tgc tca gat 440
Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys Ser Asp
35 40 45 50

tac aat gga tgt ttg tca tgt aag ccc aga cta ttt ttt gct ctg gaa 488
Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala Leu Glu
55 60 65

aga att ggc atg aag cag att gga gta tgt ctc tct tca tgt cca agt 536
Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys Pro Ser
70 75 80

gga tat tat gga act cga tat cca gat ata aat aag tgt aca aaa tgc 584
Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr Lys Cys
85 90 95

aaa gct gac tgt gat acc tgt ttc aac aaa aat ttc tgc aca aaa tgt 632
Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr Lys Cys
100 105 110

aaa agt gga ttt tac tta cac ctt gga aag tgc ctt gac aat tgc cca 680
Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn Cys Pro
115 120 125 130

gaa ggg ttg gaa gcc aac aac cat act atg gag tgt gtc agt att gtg 728
Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser Ile Val
135 140 145

cac tgt gag gtc agt gaa tgg aat cct tgg agt cca tgc acg aag aag 776
His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr Lys Lys
150 155 160

gga aaa aca tgt ggc ttc aaa aga ggg act gaa aca cgg gtc cga gaa 824
Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val Arg Glu
165 170 175

ata ata cag cat cct tca gca aag ggt aac cta tgt ccc cca aca aat 872
Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro Thr Asn
180 185 190

gag aca aga aag tgt aca gtg caa agg aag aag tgt cag aag gga gaa 920
Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys Gly Glu
195 200 205 210

cga gga aaa aaa gga agg gag agg aaa aga aaa aaa cct aat aaa gga 968
Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn Lys Gly
215 220 225

gaa agt aaa gaa gca ata cct gac agc aaa agt ctg gaa tcc agc aaa 1016
Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser Ser Lys
230 235 240

gaa atc cca gag caa cga gaa aac aaa cag cag cag aag aag cga aaa 1064
Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys Arg Lys
245 250 255

gtc caa gat aaa cag aaa tcg gta tca gtc agc act gta cac tag 1109
Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val His
260 265 270

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Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
35 40 45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala
50 55 60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
65 70 75 80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
85 90 95

Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
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Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn
115 120 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
130 135 140

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
145 150 155 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
165 170 175

Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro
180 185 190

Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys
195 200 205

Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn
210 215 220

Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
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tgccaaggag gctgtgcaac atgctcagat tacaatggat gtttgtcatg taagcccaga 180

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gactgtgata cctgtttcaa caaaaatttc tgcacaaaat gtaaaagtgg attttactta 360

caccttggaa agtgccttga caattgccca gaagggttgg aagccaacaa ccatactatg 420

gagtgtgtca gtattgtgca ctgtgaggtc agtgaatgga atccttggag tccatgcacg 480

aagaagggaa aaacatgtgg cttcaaaaga gggactgaaa cacgggtccg agaaataata 540

cagcatcctt cagcaaaggg taacctatgt cccccaacaa atgagacaag aaagtgtaca 600

gtgcaaagga agaagtgtca gaagggagaa cgaggaaaaa aaggaaggga gaggaaaaga 660

aaaaaaccta ataaaggaga aagtaaagaa gcaatacctg acagcaaaag tctggaatcc 720

agcaaagaaa tcccagagca acgagaaaac aaacagcagc agaagaagcg aaaagtccaa 780

gataaacaga aatcggtatc agtcagcact gtacactag 819

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atg gaa tac atc ggc agc caa aac gcc tcc cgg gga agg cgc cag cga      96
Met Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg
            20                  25                  30

aga atg cat cct aac gtt agt caa ggc tgc caa gga ggc tgt gca aca     144
Arg Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr
        35                  40                  45

tgc tca gat tac aat gga tgt ttg tca tgt aag ccc aga cta ttt ttt     192
Cys Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe
    50                  55                  60

gct ctg gaa aga att ggc atg aag cag att gga gta tgt ctc tct tca     240
Ala Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser
65                  70                  75                  80

tgt cca agt gga tat tat gga act cga tat cca gat ata aat aag tgt     288
Cys Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys
                85                  90                  95

aca aaa tgc aaa gct gac tgt gat acc tgt ttc aac aaa aat ttc tgc     336
Thr Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys
            100                 105                 110

aca aaa tgt aaa agt gga ttt tac tta cac ctt gga aag tgc ctt gac     384
Thr Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp
        115                 120                 125

aat tgc cca gaa ggg ttg gaa gcc aac aac cat act atg gag tgt gtc     432
Asn Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val
    130                 135                 140

agt att gtg cac tgt gag gtc agt gaa tgg aat cct tgg agt cca tgc     480
Ser Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys
145                 150                 155                 160

acg aag aag gga aaa aca tgt ggc ttc aaa aga ggg act gaa aca cgg     528
Thr Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg
                165                 170                 175

gtc cga gaa ata ata cag cat cct tca gca aag ggt aac cta tgt ccc     576
Val Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro
            180                 185                 190

cca aca aat gag aca aga aag tgt aca gtg caa agg aag aag tgt cag     624
Pro Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln
        195                 200                 205

aag gga gaa cga gga aaa aaa gga agg gag agg aaa aga aaa aaa cct     672
Lys Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro
    210                 215                 220

aat aaa gga gaa agt aaa gaa gca ata cct gac agc aaa agt ctg gaa     720
Asn Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu
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tcc agc aaa gaa atc cca gag caa cga gaa aac aaa cag cag cag aag      768
Ser Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys
                245                 250                 255

aag cga aaa gtc caa gat aaa cag aaa tcg gta tca gtc agc act gta      816
Lys Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val
            260                 265                 270

cac tag                                                              822
His
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<211> 273

<212> PRT
<213> Homo sapiens

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            20                  25                  30

Arg Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr
        35                  40                  45

Cys Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe
    50                  55                  60

Ala Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser
65                  70                  75                  80

Cys Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys
                85                  90                  95

Thr Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys
            100                 105                 110

Thr Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp
        115                 120                 125

Asn Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val
    130                 135                 140

Ser Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys
145                 150                 155                 160

Thr Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg
                165                 170                 175
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Val Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro
180 185 190

Pro Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln
195 200 205

Lys Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro
210 215 220

Asn Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu
225 230 235 240

Ser Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys
245 250 255

Lys Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val
260 265 270

His

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<212> PRT
<213> Homo sapiens

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Asp Asn Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys
35 40 45

Val Ser Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro
50 55 60

Cys Thr Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr
65 70 75 80

Arg Val Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys
85 90 95

Pro Pro Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys
100 105 110

Gln Lys Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys
115 120 125

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Pro Asn Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu
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145                 150                 155                 160


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1               5                   10                  15

Glu Tyr Ile Gly Ser

            20

<210>  16
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<212>  PRT
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            20                  25                  30

Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala Leu Glu Arg Ile Gly
        35                  40                  45

Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys Pro Ser Gly Tyr Tyr
    50                  55                  60

Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr Lys Cys Lys Ala Asp
65                  70                  75                  80

Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr Lys Cys Lys Ser Gly
                85                  90                  95

Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn Cys Pro Glu Gly Leu
            100                 105                 110

Glu Ala Asn Asn His Thr Met Glu Cys Val Ser Ile Val His Cys Glu
        115                 120                 125

Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr Lys Lys Gly Lys Thr
    130                 135                 140

Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val Arg Glu Ile Ile Gln
145                 150                 155                 160
```

```
His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro Thr Asn Glu Thr Arg
                165                 170                 175

Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys Gly Glu Arg Gly Lys
            180                 185                 190


Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn Lys Gly Glu Ser Lys
        195                 200                 205

Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser Ser Lys Glu Ile Pro
    210                 215                 220

Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys Arg Lys Val Gln Asp
225                 230                 235                 240

Lys Gln Lys Ser Val Ser Val Ser Thr Val His
                245                 250


<210>  17
<211>  23

<212>  PRT
<213>  Homo sapiens


<400>  17

Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr Lys Cys Lys
1               5                   10                  15

Ser Gly Phe Tyr Leu His Leu
            20

<210>  18
<211>  46

<212>  PRT
<213>  Homo sapiens


<400>  18

Ile Asn Lys Cys Thr Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn
1               5                   10                  15

Lys Asn Phe Cys Thr Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly
            20                  25                  30

Lys Cys Leu Asp Asn Cys Pro Glu Gly Leu Glu Ala Asn Asn
        35                  40                  45

<210>  19
<211>  20

<212>  PRT
<213>  Homo sapiens


<400>  19
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Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
1 5 10 15

Ser Asp Tyr Asn
20

<210> 20
<211> 37

<212> PRT
<213> Homo sapiens

<400> 20

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
1 5 10 15

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
20 25 30

Arg Glu Ile Ile Gln
35

<210> 21
<211> 10

<212> PRT
<213> Homo sapiens

<400> 21
Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys
1 5 10

<210> 22
<211> 42

<212> PRT
<213> Homo sapiens

<400> 22

Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys Gly Glu Arg Gly Lys
1 5 10 15

Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn Lys Gly Glu Ser Lys
20 25 30

Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu
35 40

<210> 23
<211> 14

<212> PRT
<213> Homo sapiens

<400> 23

Thr Cys Phe Asn Lys Asn Phe Cys Thr Lys Cys Lys Ser Gly
1 5 10

<210> 24
<211> 20

<212> PRT
<213> Homo sapiens

<400> 24

Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr Lys Lys Gly
1 5 10 15

Lys Thr Cys Gly
20

<210> 25
<211> 229

<212> PRT
<213> Mus musculus

<400> 25

Val Gly Ser Arg Gly Ile Lys Gly Lys Arg Gln Arg Arg Ile Ser Ala
1 5 10 15

Glu Gly Ser Gln Ala Cys Ala Lys Gly Cys Glu Leu Cys Ser Glu Val
20 25 30

Asn Gly Cys Leu Lys Cys Ser Pro Lys Leu Phe Ile Leu Leu Glu Arg
35 40 45

Asn Asp Ile Arg Gln Val Gly Val Cys Leu Pro Ser Cys Pro Pro Gly
50 55 60

Tyr Phe Asp Ala Arg Asn Pro Asp Met Asn Lys Cys Ile Lys Cys Lys
65 70 75 80

Ile Glu His Cys Glu Ala Cys Phe Ser His Asn Phe Cys Thr Lys Cys
85 90 95

Gln Glu Ala Leu Tyr Leu His Lys Gly Arg Cys Tyr Pro Ala Cys Pro
100 105 110

Glu Gly Ser Thr Ala Ala Asn Ser Thr Met Glu Cys Gly Ser Pro Ala
115 120 125

Gln Cys Glu Met Ser Glu Trp Ser Pro Trp Gly Pro Cys Ser Lys Lys
130 135 140

Arg Lys Leu Cys Gly Phe Arg Lys Gly Ser Glu Glu Arg Thr Arg Arg
145 150 155 160

Val Leu His Ala Pro Gly Gly Asp His Thr Thr Cys Ser Asp Thr Lys
165 170 175

```
Glu Thr Arg Lys Cys Thr Val Arg Arg Thr Pro Cys Pro Glu Gly Gln
            180                 185                 190

Lys Arg Arg Lys Gly Gly Gln Gly Arg Arg Glu Asn Ala Asn Arg His
        195                 200                 205

Pro Ala Arg Lys Asn Ser Lys Glu Pro Arg Ser Asn Ser Arg Arg His
    210                 215                 220

Lys Gly Gln Gln Gln
225
```

<210> 26
<211> 265

<212> PRT
<213> Homo sapiens

<400> 26

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Met His Leu Arg Leu Ile Ser Trp Leu Phe Ile Ile Leu Asn Phe Met
1               5                   10                  15

Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg Arg
            20                  25                  30

Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
        35                  40                  45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala
    50                  55                  60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
65                  70                  75                  80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
                85                  90                  95

Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
            100                 105                 110

Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn
        115                 120                 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
    130                 135                 140

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
145                 150                 155                 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
                165                 170                 175

Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro
            180                 185                 190

Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys
        195                 200                 205

Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn
    210                 215                 220
```

Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
225 230 235 240

Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys
245 250 255

Arg Lys Val Gln Asp Lys Gln Lys Ser
260 265

<210> 27
<211> 8
<212> PRT
<213> Homo sapiens

<400> 27
Ser Val Ser Val Ser Thr Val His
1 5

<210> 28
<211> 7
<212> PRT
<213> Homo sapiens

<400> 28
Val Ser Val Ser Thr Val His
1 5

<210> 29
<211> 27
<212> PRT
<213> Homo sapiens

<400> 29
Gly Ile Glu Val Thr Leu Ala Glu Gly Leu Thr Ser Val Ser Gln Arg
1 5 10 15

Thr Gln Pro Thr Pro Cys Arg Arg Arg Tyr Leu
20 25

<210> 30
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 30
ctcgggaaga agcgcgccat ttgtgttggt 30

<210> 31
<211> 2384
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (511)..(1347)

<400> 31

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ggagcggctc ctgctcagaa cgccagaagc agctcgggtc tctccagcgc cccttgacca 60

tggctgcggt acccacggcg tccgcttccc tgcgctcccg gggtccctgc cacagccgca 120

gccgctgcag cctctgagcc ccaggggcca ctgctcgcct ggattccgcc cgcagccgcc 180

gctgctgtgc aaccgaggct aacctgcggc cagccaggag gctcctgcaa ccttcgctcg 240

cggcgatgac agccacccca gagcagccgg ctgtgttcgg acaatttgag aatgcaattg 300

ttggtttccc ggtccacccg tcccgcttcg cttgccatca cagcacgcct gttggatctc 360

agtggagaag tcccgctgct ctggtttttc tactcttcgt atagactcgc ctaacaccta 420

catacatatt tttctttaaa aaaaaacatt aaatataact aacagtgaaa agaaaaagga 480

gagaaaaaag ggaaacatta cagggttact atg cac ttg cga ctg att tct tgt  534
                                Met His Leu Arg Leu Ile Ser Cys
                                  1               5

ttt ttt atc att ttg aac ttt atg gaa tac att ggc agc caa aac gcc   582
Phe Phe Ile Ile Leu Asn Phe Met Glu Tyr Ile Gly Ser Gln Asn Ala
     10                  15                  20

tcc cga gga agg cgc cag cga aga atg cat cct aat gtc agt caa ggc   630
Ser Arg Gly Arg Arg Gln Arg Arg Met His Pro Asn Val Ser Gln Gly
 25                  30                  35                  40

tgc caa gga ggc tgt gca acg tgt tca gat tac aat ggc tgt ttg tca   678
Cys Gln Gly Gly Cys Ala Thr Cys Ser Asp Tyr Asn Gly Cys Leu Ser
                 45                  50                  55

tgt aag ccc aga ctg ttt ttt gtt ctg gaa agg att ggc atg aag cag   726
Cys Lys Pro Arg Leu Phe Phe Val Leu Glu Arg Ile Gly Met Lys Gln
             60                  65                  70

ata gga gtg tgt ctc tct tcg tgt cca agt gga tat tac gga act cga   774
Ile Gly Val Cys Leu Ser Ser Cys Pro Ser Gly Tyr Tyr Gly Thr Arg
         75                  80                  85

tat cca gat ata aat aaa tgt aca aaa tgc aaa gtt gac tgt gat acc   822
Tyr Pro Asp Ile Asn Lys Cys Thr Lys Cys Lys Val Asp Cys Asp Thr
     90                  95                  100

tgt ttc aac aaa aat ttc tgc aca aag tgt aaa agt gga ttt tac tta   870
Cys Phe Asn Lys Asn Phe Cys Thr Lys Cys Lys Ser Gly Phe Tyr Leu
105                 110                 115                 120

cac ctt gga aag tgc ctt gac agt tgc cca gaa ggg tta gaa gcc aac   918
His Leu Gly Lys Cys Leu Asp Ser Cys Pro Glu Gly Leu Glu Ala Asn
                125                 130                 135

aat cat act atg gaa tgt gtc agt att gta cac tgt gag gcc agt gaa   966
Asn His Thr Met Glu Cys Val Ser Ile Val His Cys Glu Ala Ser Glu
            140                 145                 150

tgg agt cca tgg agt cca tgt atg aag aaa gga aaa aca tgt ggc ttc   1014
Trp Ser Pro Trp Ser Pro Cys Met Lys Lys Gly Lys Thr Cys Gly Phe
        155                 160                 165

aaa agg ggg act gaa aca cgg gtc cga gat ata cta cag cat cct tca   1062
Lys Arg Gly Thr Glu Thr Arg Val Arg Asp Ile Leu Gln His Pro Ser
    170                 175                 180
```

```
gcc aag ggt aag ggt aac ctg tgc ccc cca acc agc gag aca aga act   1110
Ala Lys Gly Lys Gly Asn Leu Cys Pro Pro Thr Ser Glu Thr Arg Thr
185                 190                 195                 200

tgt ata gta caa aga aag aag tgt tca aag gga gag cga gga aaa aag   1158
Cys Ile Val Gln Arg Lys Lys Cys Ser Lys Gly Glu Arg Gly Lys Lys
                205                 210                 215


gga aga gag aga aaa cga aaa aaa ctg aat aaa gaa gaa aga aag gaa   1206
Gly Arg Glu Arg Lys Arg Lys Lys Leu Asn Lys Glu Glu Arg Lys Glu
            220                 225                 230

aca agc tcc tcc tct gac agc aaa ggt ttg gag tcc agc att gag acc   1254
Thr Ser Ser Ser Ser Asp Ser Lys Gly Leu Glu Ser Ser Ile Glu Thr
        235                 240                 245

cca gac cag cag gaa aac aaa gag agg cag cag cag cag aag aga aga   1302
Pro Asp Gln Gln Glu Asn Lys Glu Arg Gln Gln Gln Gln Lys Arg Arg
    250                 255                 260

gcc cga gac aag caa cag aaa tcg gta tca gtc agc act gta cac       1347
Ala Arg Asp Lys Gln Gln Lys Ser Val Ser Val Ser Thr Val His
265                 270                 275

tagagggtcc tgcgaggtta ctgtagactc atgatgctgc tatctcaacc agatgtccag 1407

gacaggtgtt ctagccatta gaaccacaaa tggacaacac atcagttacc actctgtcta 1467

aacaacattc ctaatagttg ctatattctt catacaaaca tagtaaacag caaagagcca 1527

aatgttcaaa gaagggatac tttcagatgg ttatcttatg tgcttctgtg tatttttaaa 1587

agatgagaaa atttgtacat aattatcaat aagctataag atatcctcaa tgtaatgacg 1647

acagctggac aagaatcatc ttttctttat aaaaaaatta ttcttcgaat aattgtcttt 1707

aagaagcaaa aggtaattct gcaacttcaa aaatgcagtg tccctcaaaa ccaagatttg 1767

tcaggggaga gaatcatggc tccatgtaca gggtggattt gtcccggaga actagtgaat 1827

gctcagaatt agggcctggc attttgaatc ctagagttaa tcatcacaga agcaagtggt 1887

ttaggattgc ttcggttgcc ctcctctgca agaaactgaa catgcataat agagttaaat 1947

atattgtgtg gagttggaat aaggcaagct gtggaagaaa tcatagagct ggagaccatc 2007

ttgtgctttc cagaaccgtg aggggttttg gtcacctgga acagggctcc aatctatatt 2067

agcactgtgt ggttgatctt ccactactcc ttggtttata taagtctgta aacatgtacc 2127

tgtacctttc ttccaaaagt aaaaccatac ttactagaag aaaattctaa ctttatggaa 2187

aacaaaagtg taagaagaat gtgacatgtt tgcaaagttg agtgttttct ttctgaaatg 2247

aggggaaaac tattttatta cctgcctatg ggtccacctg gaactaaagg gatactactt 2307

tctaacaagg tgtatctagt aggagagaaa gccaccacaa taaatatatt tgttaatagn 2367

taaaaaaaaa aaaaaaa                                               2384
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<210> 32

<211> 279
<212> PRT
<213> Mus musculus

<400> 32
Met His Leu Arg Leu Ile Ser Cys Phe Phe Ile Ile Leu Asn Phe Met
1 5 10 15

Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg Arg
20 25 30

Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
35 40 45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Val
50 55 60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
65 70 75 80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
85 90 95

Lys Cys Lys Val Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
100 105 110

Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Ser
115 120 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
130 135 140

Ile Val His Cys Glu Ala Ser Glu Trp Ser Pro Trp Ser Pro Cys Met
145 150 155 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
165 170 175

Arg Asp Ile Leu Gln His Pro Ser Ala Lys Gly Lys Gly Asn Leu Cys
180 185 190

Pro Pro Thr Ser Glu Thr Arg Thr Cys Ile Val Gln Arg Lys Lys Cys
195 200 205

Ser Lys Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys
210 215 220

Leu Asn Lys Glu Glu Arg Lys Glu Thr Ser Ser Ser Ser Asp Ser Lys
225 230 235 240

Gly Leu Glu Ser Ser Ile Glu Thr Pro Asp Gln Gln Glu Asn Lys Glu
245 250 255

Arg Gln Gln Gln Gln Lys Arg Arg Ala Arg Asp Lys Gln Gln Lys Ser
260 265 270

Val Ser Val Ser Thr Val His
275

<210> 33
<211> 2101

<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (259)..(1074)

<400> 33
tcgcggcgat gccagccacc ccagcgaagc cgccgcagtt cagtgcttgg ataatttgaa 60

agtacaatag ttggtttccc tgtccacccg ccccacttcg cttgccatca cagcacgcct 120

atcggatgtg agaggagaag tcccgctgct cgggcactgt ctatatacgc ctaacaccta 180

catatatttt aaaaacatta aatataatta acaatcaaaa gaaagaggag aaaggaaggg 240

aagcattact gggttact atg cac ttg cga ctg att tct tgg ctt ttt atc 291
Met His Leu Arg Leu Ile Ser Trp Leu Phe Ile
1 5 10

att ttg aac ttt atg gaa tac atc ggc agc caa aac gcc tcc cgg gga 339
Ile Leu Asn Phe Met Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly
15 20 25

agg cgc cag cga aga atg cat cct aac gtt agt caa ggc tgc caa gga 387
Arg Arg Gln Arg Arg Met His Pro Asn Val Ser Gln Gly Cys Gln Gly
30 35 40

ggc tgt gca aca tgc tca gat tac aat gga tgt ttg tca tgt aag ccc 435
Gly Cys Ala Thr Cys Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro
45 50 55

aga cta ttt ttt gct ctg gaa aga att ggc atg aag cag att gga gta 483
Arg Leu Phe Phe Ala Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val
60 65 70 75

tgt ctc tct tca tgt cca agt gga tat tat gga act cga tat cca gat 531
Cys Leu Ser Ser Cys Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp
80 85 90

ata aat aag tgt aca aaa tgc aaa gct gac tgt gat acc tgt ttc aac 579
Ile Asn Lys Cys Thr Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn
95 100 105

aaa aat ttc tgc aca aaa tgt aaa agt gga ttt tac tta cac ctt gga 627
Lys Asn Phe Cys Thr Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly
110 115 120

aag tgc ctt gac aat tgc cca gaa ggg ttg gaa gcc aac aac cat act 675
Lys Cys Leu Asp Asn Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr
125 130 135

atg gag tgt gtc agt att gtg cac tgt gag gtc agt gaa tgg aat cct 723
Met Glu Cys Val Ser Ile Val His Cys Glu Val Ser Glu Trp Asn Pro
140 145 150 155

tgg agt cca tgc acg aag aag gga aaa aca tgt ggc ttc aaa aga ggg 771
Trp Ser Pro Cys Thr Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly
160 165 170

act gaa aca cgg gtc cga gaa ata ata cag cat cct tca gca aag ggt 819
Thr Glu Thr Arg Val Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly
175 180 185

```
aac cta tgt ccc cca aca aat gag aca aga aag tgt aca gtg caa agg   867
Asn Leu Cys Pro Pro Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg
        190                 195                 200

aag aag tgt cag aag gga gaa cga gga aaa aaa gga agg gag agg aaa   915
Lys Lys Cys Gln Lys Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys
    205                 210                 215


aga aaa aaa cct aat aaa gga gaa agt aaa gaa gca ata cct gac agc   963
Arg Lys Lys Pro Asn Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser
220                 225                 230                 235

aaa agt ctg gaa tcc agc aaa gaa atc cca gag caa cga gaa aac aaa   1011
Lys Ser Leu Glu Ser Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys
                240                 245                 250

cag cag cag aag aag cga aaa gtc caa gat aaa cag aaa tcg gta tca   1059
Gln Gln Gln Lys Lys Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser
            255                 260                 265

gtc agc act gta cac tagagggttc catgagatta ttgtagactc atgatgctgc   1114
Val Ser Thr Val His
        270

tatctcaacc agatgcccag gacaggtgct ctagccatta ggaccacaaa tggacatgtc 1174

agttattgct ctgtctaaac aacattccca gtagttgcta tattcttcat acaagcatag 1234

ttaacaacaa agagccaaaa gatcaaagaa gggatacttt cagatggttg tcttgtgtgc 1294

ttctctgcat ttttaaaaga caagacattc ttgtacatat tatcaatagg ctataagatg 1354

taacaacgaa atgatgacat ctggagaaga aacatctttt ccttataaaa atgtgttttc 1414

aagctgttgt tttaagaagc aaaagatagt tctgcaaatt caaagataca gtatcccttc 1474

aaaacaaata ggagttcagg gaagagaaac atccttcaaa ggacagtgtt gttttgaccg 1534

ggagatctag agagtgctca gaattagggc ctggcatttg gaatcacagg atttatcatc 1594

acagaaacaa ctgttttaag attagttcca tcactctcat cctgtatttt tataagaaac 1654

acaagagtgc ataccagaat tgaatatacc atatgggatt ggagaaagac aaatgtggaa 1714

gaaatcatag agctggagac tacttttgtg ctttacaaaa ctgtgaagga ttgtggtcac 1774

ctggaacagg tctccaatct atgttagcac tatgtggctc agcctctgtt acccccttgga 1834

ttatatatca acctgtaaac atgtgcctgt aacttacttc caaaaacaaa atcatactta 1894

ttagaagaaa attctgattt tatagaaaaa aaatagagca aggagaatat aacatgtttg 1954

caaagtcatg tgttttcttt ctcaatgagg gaaaaacaat tttattacct gcttaatggt 2014

ccacctggaa ctaaaaggga tactattttc taacaaggta tatctagtag gggagaaagc 2074

caccacaata aatatatttg ttaatag                                     2101
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<210> 34
<211> 272
<212> PRT

<213> Homo sapiens

<400> 34
Met His Leu Arg Leu Ile Ser Trp Leu Phe Ile Ile Leu Asn Phe Met
1 5 10 15

Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg Arg
20 25 30

Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
35 40 45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala
50 55 60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
65 70 75 80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
85 90 95

Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
100 105 110

Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn
115 120 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
130 135 140

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
145 150 155 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
165 170 175

Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro
180 185 190

Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys
195 200 205

Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn
210 215 220

Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
225 230 235 240

Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys
245 250 255

Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val His
260 265 270

<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 35
agtacaaaga aagaagtgtt c 21

<210> 36
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 36
tgagtctaca gtaacctcgc a 21

<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 37
taatacgact cactataggg 20

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 38
tcgcggcgat gccagccacc ccag 24

<210> 39
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 39
agcacgccta tcggatgtga gaggagaagt 30

<210> 40
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 40
ctattaacaa atatatttat tgtggtggct 30

<210> 41
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 41
tggtggcttt ctcccctact agatatacct 30

<210> 42
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 42
gattttaggt gacactatag 20

<210> 43
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 43
ccgctcgagc caccatgcac ttgcgactga tttc 34

<210> 44
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 44
attgaattcc tagtgtacag tgctgactg 29

<210> 45
<211> 84
<212> DNA
<213> Homo sapiens

<220>
<223> Description of Artificial Sequence: PCR primer

<220>
<221> CDS
<222> (1)..(81)

<400> 45

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ggg att gaa gtc acc cta gct gaa ggc ctc acc agt gtt tca cag agg   48
Gly Ile Glu Val Thr Leu Ala Glu Gly Leu Thr Ser Val Ser Gln Arg
  1               5                  10                  15

aca cag ccc acc cct tgc agg agg agg tat ctc tga                   84
Thr Gln Pro Thr Pro Cys Arg Arg Arg Tyr Leu
             20                  25
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<210> 46
<211> 27
<212> PRT
<213> Homo sapiens

<400> 46
Gly Ile Glu Val Thr Leu Ala Glu Gly Leu Thr Ser Val Ser Gln Arg
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Thr Gln Pro Thr Pro Cys Arg Arg Arg Tyr Leu
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<212> DNA
<213> Homo sapiens

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tcttggcttt ttatcatttt gaactttatg gaatacatcg gcagccaaaa cgcctcccgg 360

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gttctccacc agttgtacag ttcatgtaat ctacttggct taattgattt tccacttctc 1380

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			20					25					30		
Met	His	Pro	Asn	Val	Ser	Gln	Gly	Cys	Gln	Gly	Gly	Cys	Ala	Thr	Cys
		35					40					45			
Ser	Asp	Tyr	Asn	Gly	Cys	Leu	Ser	Cys	Lys	Pro	Arg	Leu	Phe	Phe	Ala
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Leu	Glu	Arg	Ile	Gly	Met	Lys	Gln	Ile	Gly	Val	Cys	Leu	Ser	Ser	Cys
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Pro	Ser	Gly	Tyr	Tyr	Gly	Thr	Arg	Tyr	Pro	Asp	Ile	Asn	Lys	Cys	Thr
				85					90					95	
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			100					105					110		
Lys	Cys	Lys	Ser	Gly	Phe	Tyr	Leu	His	Leu	Gly	Lys	Cys	Leu	Asp	Asn
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Cys	Pro	Glu	Gly	Leu	Glu	Ala	Asn	Asn	His	Thr	Met	Glu	Cys	Val	Ser
	130					135					140				
Ile	Val	His	Cys	Glu	Val	Ser	Glu	Trp	Asn	Pro	Trp	Ser	Pro	Cys	Thr
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Lys	Lys	Gly	Lys	Thr	Cys	Gly	Phe	Lys	Arg	Gly	Thr	Glu	Thr	Arg	Val
				165					170					175	
Arg	Glu	Ile	Ile	Gln	His	Pro	Ser	Ala	Lys	Gly	Asn	Leu	Cys	Pro	Pro
			180					185					190		
Thr	Asn	Glu	Thr	Arg	Lys	Cys	Thr	Val	Gln	Arg	Lys	Lys	Cys	Gln	Lys
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Gly	Glu	Arg	Gly	Lys	Lys	Gly	Arg	Glu	Arg	Lys	Arg	Lys	Lys	Pro	Asn
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Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
225 230 235 240

Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys
245 250 255

Arg Lys Val Gln Asp Lys Gln Lys Ser Gly Ile Glu Val Thr Leu Ala
260 265 270

Glu Gly Leu Thr Ser Val Ser Gln Arg Thr Gln Pro Thr Pro Cys Arg
275 280 285

Arg Arg Tyr Leu
290